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**Title:** MARSHAL SHAPOSHNIKOV ON ISSUES OF COLLECTIVE SECURITY

**Primary Source:** *Kazakhstanskaya pravda*, June 27, 1992, No. 147-148 (21072-21073), p. 4, cols. 2-6

**Extract:** Marshal of Aviation Yevgeniy Shaposhnikov, Commander-in-Chief of the Commonwealth's Joint Armed Forces, answers *Kazakhstanskaya Pravda's* questions.

"How do you assess the present and future of the CIS Joint Armed Forces (OVS)?"

"I think the future of the CIS Joint Armed Forces is good. The Tashkent Collective Security Treaty, signed by six states so far, but open in nature, essentially opens up the prospect for transformation of the collective security system into a military-political alliance.

"And it's not a question of someone's desire or non-desire to decide defense issues jointly, although today this does sometimes have the strongest influence now. The need to integrate defense efforts, like economic, political, scientific-technical, and others, is objective. Suffice it to point out NATO, for example.

"The advantages of such integration are obvious. They are especially great for the CIS states. Here, like nowhere else in the world, an effective system of military-economic, military-strategic relations and a unique unified military infrastructure have been created over many decades. And not to use it would be ungovernmental, unwise. This is a base for a reliable system of collective security. And the function of such a system is in the radical, vital interests of the peoples of the Commonwealth.

"Also important is the fact that the efforts of the CIS states to create and strengthen the collective security system reinforces internal and international stability, and creates guarantees in the en-

tire world's eyes of the Commonwealth's fulfillment of its obligations in the area of arms reduction and disarmament, and most of all the preservation of a unified command structure and unified monitoring of nuclear weapons."

"You spoke of a unified command structure and unified monitoring of nuclear weapons. Are these functions of the OVS main command?"

"Yes, this is one of its most important functions. As you know, the operational subordinates of the OVS main command include the strategic forces, including strategic missile troops, naval and airborne strategic nuclear forces, antimissile and space defense troops, nuclear technical units, space assets and strategic reconnaissance, and their supporting troops. They perform missions in the interests of all the Commonwealth states."

(A photograph of Ye. Shaposhnikov is given.)

(SNAP 920922)

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**Author:** *Falichev, O., Colonel, correspondent*

**Title:** CIS DEFENSE MINISTERS DISCUSS MILITARY ISSUES; UKRAINE'S NUCLEAR POLICY CRITICIZED

**Primary Source:** *Krasnaya zvezda*, July 4, 1992, No. 148-149 (20835-20836), p. 1, cols. 1-2

**Entire Text:** As planned, a conference of the Council of Ministers of Defense of the Commonwealth of Independent States began in the Main Headquarters of the CIS Joint Armed Forces (OVS) at 10 a.m. [on July 4]. The opening speaker was Marshal of Aviation Ye. Shaposhnikov, Commander-in-Chief of the CIS OVS.

The conference agenda included the following items: The Air Defense System;

Equipment of Missile Attack Warning and Space Monitoring Systems; Refining the Composition of the Strategic Forces; the Collective Security Council; Organization of the Activity of the Commander-in-Chief of the CIS OVS; Foundations of CIS Military Policy and Nuclear Strategy; Results of the Work of Heads of Personnel Agencies; and others.

General-Colonel Boris Pyankov, Deputy Commander-in-Chief of the CIS OVS, told journalists at the end of the conference of the Council of Ministers of Defense of the CIS that all documents scheduled for review were approved today with minor corrections. The only point of disagreement was the status and form of control of the strategic forces deployed on Ukrainian territory.

Boris Pyankov sharply criticized the Ukrainian position on the matter. "We have proposed today," he said, "to remove the nuclear warheads from the strategic missiles deployed there or to remove the maps of their mission assignments from their onboard computers. This would turn the missiles into fuel canisters. And the question of Ukraine as a nuclear power would no longer come up. But the Ukrainians reject the possibility of such steps and continue to maneuver. Ukraine's unwillingness to transfer the Strategic Nuclear Forces to the full control of Russia and the OVS Main Command is provoking objections on the part of Kazakhstan and Belarus as well, which had already undertaken that step."

(SNAP 920922)

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**Author:** Lukanin, M., Captain 2nd Rank  
**Title:** PROBLEMS OF ACCURATE MAPPING OF EARTH'S SURFACE FROM SPACE

**Primary Source:** Krasnaya zvezda, July 4, 1992, No. 148-149 (20835-20836), p. 4, cols. 1-4

**Extract:** In my hands I hold the recently published Atlas of Venus, which can well be termed a major achievement of domestic cartography, and I admit a strange feeling. Will we soon see an Atlas of the CIS, and if so, what is our Commonwealth from the standpoint of political geography? How will it look on maps?

It was just such initial questions that I took to Nikolay Makarenko, director of the Central Scientific Research Institute of Geodesy, Aerial Photography and Cartography imeni Krasovskiy.

"You ask what's simpler," he answered. "Today, it's easier to give a scientific description of other planets than of the former one-sixth of the Earth's land area. Right now, due to the division of the former USSR, even republications of old political maps of the world have been halted."

"Active surveillance from space is a reality, one of the most effective means of gathering information about inaccessible territories. However, even satellites' capabilities are not limitless. From orbit, it's very difficult to display relief corresponding to these scales. And without relief data, for example, it's impossible to program a cruise missile's mission."

"I've heard that the Space Flight Control Center has some kind of completely unique globe."

"Yes, they do have a rare one-of-a-kind globe, which took nearly a year to make. It displays the Earth's relief in three dimensions."

"And do you often have occasion to produce, shall we say, special editions?"

"It depends what you mean by that. All the apparatus that we develop is unique in its own way. It is designed for precision linear measurements, determination of the force of gravity at various points on the Earth, strains in the Earth's crust, sea-bottom research, and so forth. That, for example, is a fact. Mass industrial aerial photography is done in our country using only domestic equipment. In optics, we are competitive on the most demanding world market, we have the greatest authorities here, of whom the greatest is Professor M. M. Rusinov, research director of our optics laboratory in Saint Petersburg."

(A photograph of N. L. Makarenko is given.)

(SNAP 920922)

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**Author:** Trubitsyn, Aleksey, Major, correspondent (interviewer)  
**Title:** DIRECTOR OF UKRAINIAN ENGINEERING TROOPS DISCUSSES TASKS, ORGANIZATION

**Primary Source:** *Narodnaya armiya*, July 2, 1992, No. 119 (172), p. 1, cols. 6-8; p. 2, cols. 1-4

**Extract:** Vladimir Dmitriyevich Bezrodnyy is director of the Engineering Troops Directorate of the Ukrainian Armed Forces' Main Headquarters. V. D. Bezrodnyy worked for several years as senior officer of the operational intelligence department of Engineering Troop Headquarters of the USSR Ministry of Defense. From that post, he entered the Military Academy of the USSR Armed Forces General Staff. After graduating from the academy, he was chief of staff and first deputy director of engineering troops for the Caspian Military District. From 1983 to 1986, he worked as a military adviser in Vietnam under the commander of engineering troops for the People's Army. After that, he headed engineering troops in the Transbaykal Military District. His last post was first deputy director of engineering troops of the USSR Ministry of Defense.

"Vladimir Dmitriyevich, tell us about the strategy and tactics of the Ukrainian Armed Forces engineering troops and the concept of their use in connection with our state's defense policy."

"We provide the Armed Forces with all military engineering equipment, engineering munitions, and electrical equipment, and perform power management. All this is in addition to battle training, instruction and service."

"The defensive nature of our military policy assigns the engineering troops the task of engineering support for cover of the national borders under combat conditions (laying mine fields, erecting fortification equipment, etc., as well as supporting the troops' movement to their designated areas of operation). The main thing here is for engineering troops to have the needed numbers and quantity of equipment in peacetime to accomplish their assigned tasks."

"This creates a great problem of reviewing the present structure of the engineering troops based on their assigned purpose. I favor giving each engineering unit the needed forces and means for quality accomplishment of the tasks facing it. And that's why I think it's abnormal when,

say, three battalions in an engineering brigade have nearly full complements, while two are depleted. Deploying the latter will take both time and people, who are taken from fully staffed units, weakening their battle readiness."

"In other words, the engineering troops should have two types of units: mobile, fully staffed, capable as is of performing their assignment for engineering cover of the national borders, participating in accident cleanup and disaster relief, and supporting the viability of the Ukrainian Armed Forces, and [on the other hand] centers where mobile resources can be deployed in case of war within specified periods."

"One other important task we face is clearing land of explosive objects. Today, we have about 140 groups working in Ukraine, who have disarmed nearly 13,000 live rounds in the last six months."

(A photograph of V. D. Bezrodnyy is given.)  
(SNAP 920922)

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**Author:** *Felgengauer, Pavel*

**Title:** POPULATION, INSTITUTES AND 'PRODUCTS' OF RUSSIA'S CLOSED NUCLEAR CITIES

**Primary Source:** *Nezavisimaya gazeta*, June 30, 1992, No. 122 (293), p. 5, cols. 1-8

**Extract:** Russia has only ten closed nuclear cities, and they are all subordinate to the Atomic Energy Ministry (formerly Medium Machine Building). The total number of residents, in the opinion of current Minister of Atomic Energy Viktor Mikhaylov, is about 700,000; in the opinion of the chairman of the Arzamas-16 City Council, it's about 900,000. The unofficial capital of the nuclear archipelago is Arzamas-16.

Arzamas-16 is a pure department city. Appropriately, the most important man in the city is the director of All-Union Scientific Research Institute of Experimental Physics (VNIIEF) (currently Vladimir Belugin). Of 81,000 residents, about 24,000 work at VNIIEF, which was just recently renamed the "Russian Nuclear Center." But no more than a third of the employees are actually engaged in scientific or R&D work. The remainder either have absolutely no

relationship to the development of new nuclear warheads (municipal transportation, kindergartens, and much more belong to the institute and are served by its 'employees'), or work in an experimental plant that belongs to the institute or in other purely technical positions.

However, in the opinion of the leading developers, no more than 200 of the best theoretical physicists, who have managed over their years of work to become fairly diversified specialists, plus about 200 of the leading research designers, know the entire nuclear weapon development process and actually could, if they wished, aid the proliferation of nuclear weapons outside Russia's borders.

Besides Arzamas-16, nuclear warheads are also constructed at Chelyabinsk-70, home of the All-Union Scientific Research Institute of Theoretical Physics (VNIITF) (Chelyabinsk-70 has a population of 40,000, 15,000 of whom work at the institute. The director is Vladimir Nechay, and the research director is Yevgeniy Avrorin).

Arzamas-16, the aboriginal city of the nuclear archipelago, is the most diversified of the closed cities: scientific research (some of it totally 'open') is performed there, serially produced and experimental warheads, as well as some other 'products' are assembled, and there is (as they say) even one (at least) nuclear reactor. The other nuclear cities are specialized industrial centers that together form a complete cycle of nuclear production. Warhead assembly was once specially split among various regions, to make it harder for the Americans to cover it all at once with several missiles. Zlatoust-36, Sverdlovsk-45, Arzamas-16, and Penza-19 (the smallest, the newest, and until recently one of the most secret cities of the archipelago). Besides an instrument factory, Penza-19 contains a Scientific Research and Design Institute for Radio and Electronic Equipment (NIKIRET), but as the name suggests, it also solves largely practical problems, unlike the theoretical VNIIEF and VNIITF. Nevertheless, many cities have branches of the leading institutes.

Now, of 13 plutonium reactors, only four remain operational today: one in Tomsk-7 and three in the underground Krasnoyarsk-26.

At the same time, the Ministry of Atomic Energy has proposed using the majority of the \$400 million allocated by the U.S. Congress to aid the CIS to dismantle nuclear weapons and create a reliable storage facility for the plutonium that would be freed from the disassembled warheads. Incidentally, the most likely site of the storage facility is Krasnoyarsk-26.

This year, two more underground reactors in Krasnoyarsk-26 are to be shut down, but the last underground reactor in that marvelous city will probably still be operated for a long time, since in addition to plutonium, it also produces heat and electricity for Krasnoyarsk-26 (the world's only underground nuclear power plant).

(A photograph of V. Belugin is given.) (SNAP 920922)

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**Author:** *Yakimets, Vladimir, of the Russian Academy of Sciences' Institute for Systems Analysis*

**Title:** QUESTIONS ABOUT CLEAN-UP OF NUCLEAR INDUSTRIAL SITES, STORAGE OF NUCLEAR WASTES

**Primary Source:** *Nezavisimaya gazeta, July 2, 1992, No. 124 (295), p. 4, cols. 1-4*

**Abstract:** The author discusses steps being taken to improve nuclear safety and environmental protection. He states that, while a U.S. program to restore the environment and modernize the military-industrial complex is expected to cost about 150 billion dollars over a period of 30 years, Russian nuclear experts have proposed the allocation of over 3 billion rubles (less than 30 million dollars) between now and 2010 for the improvement of personnel safety, environmental protection and disposal of radioactive wastes. The author believes enterprises in the Russian military-industrial complex to be no less contaminated than their American counterparts, and doubts that these funds are sufficient to clean them up. He suggests that resources that are now being expended for testing be redirected to these purposes.

The author also expresses doubt as to whether Arzamas-16 and Chelyabinsk-70, which have taken on the problem of dismantling the warheads being eliminated in the CIS, possess modern facilities for storing

weapons-grade plutonium. He concludes that great financial and labor resources are required in order to resolve the questions of full-scale recycling and safe storage of fissile materials.  
(SNAP 920922)

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**Author:** Tokarenko, Ye., correspondent  
(Novosibirsk)

**Title:** LASER DIAGNOSTIC AND TREATMENT  
EQUIPMENT SHOWN AT "MEDFARM-92" EXHIBITION

**Primary Source:** *Meditsinskaya gazeta*, July  
10, 1992, No. 54 (5279), p. 2, cols. 1-3

**Extract:** The alliance of the Institute of Thermophysics of the Russian Academy of Sciences' Siberian Division and the Institute of Clinical and Experimental Medicine of the Russian Academy of Medical Sciences' Siberian Division was a genuine sensation of the "Medfarm-92" international exhibition, held in Novosibirsk: the Novosibirsk physicists had developed the IKEM system of instruments unparalleled in the world, comprising the equipment of a laser diagnosis and radiation therapy office. One piece of equipment, based on a powerful semiconductor laser, enables the doctor, based on the state of a patient's skin, temperature and type of respiration, to display changes in the air density field on a screen. In other words, the biological aura generated by a person, from which the doctor can highly accurately determine the condition of his internal organs and systems. By the way,

this instrument is capable of disclosing all the ins and outs of faith healers, that is, objectively recording the nature of the effect on people and the fact of its presence. After all, their certification has been at issue for a long time.

The system also includes a laser acupuncture unit with six waveguides, a laser instrument for express diagnosis (in only a few seconds) of blood, and so on. Scientists from the two academies have created an association of optical and laser technologies in medicine, biology and ecology. What they offer is not laboratory setups, but industrially produced instruments.

(A photograph showing laser diagnostic equipment, developed by the Institute of Thermophysics of the Russian Academy of Sciences' Siberian Division, is given.)  
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